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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 27612.4-2023

**Agricultural irrigation equipment - Sprinklers - Part 4: Test
methods for durability**

农业灌溉设备 喷头 第4部分：耐久性试验方法

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 4 of GB/T 27612 "Agricultural Irrigation Equipment Sprinklers": GB/T 27612 has released the following parts:

- Part 1: Terminology and classification;
- Part 3: Water distribution characteristics and test methods;
- Part 4: Durability test methods:

This document is equivalent to ISO 15886-4:2019 "Irrigation Equipment Irrigation Sprinklers Part 4: Durability Test Methods":

This document has made the following minimal editorial changes:

- In order to coordinate with the existing standards, the name of the standard is changed to "Agricultural Irrigation Equipment Sprinklers Part 4: Durability Test Methods":

Introduction

GB/T 27612 "Agricultural Irrigation Equipment Sprinklers" is intended to consist of 4 parts:

- Part 1: Terminology and classification: The purpose is to give the terminology and classification of sprinklers:
- Part 2: Design and operation technical requirements: The purpose is to give technical requirements for nozzle design and operation:
- Part 3: Water distribution characteristics and test methods: The purpose is to give the key performance indicators of the sprinkler head, the water volume distribution characteristics and its experiment method:
- Part 4: Durability test methods: The purpose is to provide a test method for the durability

of nozzles:

This series of standards completely gives the terms and definitions of nozzles, design and operation technical requirements, water volume distribution characteristics and test methods, resistance to the durability test method provides a basis for the manufacturing and product upgrading of agricultural irrigation equipment sprinkler heads:

Agricultural irrigation equipment sprinkler heads Part 4: Durability test methods

1 Scope

This document specifies the durability test conditions and test methods for rotary sprinklers used in agricultural irrigation:

The nozzles specified in this document are generalized nozzles, covering all types of products defined by ISO 15886-1 and applicable to all products defined by the manufacturer:

Irrigation sprinklers with static and moving parts during operation:

For any given nozzle, due to the diversity of nozzle structures, operating conditions and adjustment methods, at least in theory, a large number of for testing, under the condition that the test accuracy meets the requirements, inspection agencies and manufacturers can use interpolation technology to reduce the number of actual tests:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

ISO 15886-3:2012 Agricultural irrigation equipment sprinkler heads Part 3: Water volume distribution characteristics and test methods (Agriculturalir-Note: GB/T 27612.3-2023
Agricultural irrigation equipment sprinkler heads Part 3: Water volume distribution characteristics and test methods (ISO 15886-3:2021, IDT)

3 Terms and definitions

The following terms and definitions apply to this document:

ambient temperature the air temperature around the sprinkler head:

Spray areaareaofcoverage the wetted area formed by spraying when the sprinkler head operates within the effective irrigation intensity range specified in the manufacturer's instructions:

cleanwater

After treatment (if necessary), the suspended particles contained shall not be larger than 74 μm (200 mesh), and shall not have any short-term impact on the nozzle material:

Noisy insoluble chemicals in water:

Water volume distribution curve A graph showing the functional relationship between the distance from the sprinkler head along a specified radius and the irrigation depth:

Use a minimum 25% watering depth to characterize sprinkler head watering uniformity simulated by field measurements or rain gauge grid layout methods sexual coefficient: